UNCERTAINTIES IN PROJECTING FEDERAL BUDGET SURPLUSES

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In January 2001, the non-partisan U.S. Congressional Budget Office (2001a) issued updated federal budget projections for fiscal years 2002 through 2011. According to the CBO's baseline projections, the federal government will accumulate $5.6 trillion in total surpluses over the coming decade. Slightly less than half of this total ($2.5 trillion) is expected to come from so-called "off-budget" programs, the most important of which is Social Security. The remainder of the surplus ($3.1 trillion) is expected to come from "on-budget" sources, as mounting federal tax revenues continue to exceed spending on the rest of the government's programs. In the absence of new legislation, the projected budget surpluses are large enough to pay off all of the publicly held federal debt that is available for redemption by the year 2006.

The emergence of these large projected surpluses has sparked a vigorous political debate over how the funds should be used--whether for tax cuts, paying down debt, or new spending. Participants in the debate often adopt the CBO's baseline numbers as the starting point for their proposed budget plans. When thinking about these issues, it is important to keep in mind that ten-year budget projections are subject to considerable uncertainty. This *Economic Letter* discusses the nature of this uncertainty and presents some alternative projections constructed by the CBO to help illustrate the range of possible budget scenarios that might be observed over the next decade.

THE BASELINE PROJECTION

The CBO's baseline budget projections are constructed according to statutory rules set forth mainly in the Deficit Control Act of 1985 and the Congressional Budget Act of 1974. When projecting federal tax revenues and mandatory federal spending, the rules instruct the CBO to assume that existing tax and spending policies are continued in the future. The CBO then estimates how future economic conditions, demographics, and other relevant factors will affect the stream of revenues and spending under the existing policies. In the case of discretionary spending (which is subject to annual appropriation decisions), the rules instruct the CBO to assume that nominal discretionary spending grows at the rate of inflation. The baseline projections are not intended to be forecasts of future legislation; the CBO recognizes that the actual tax and spending policies signed into law will usually differ from those used to construct the baseline. During the last three fiscal years, for example, nominal discretionary spending grew at an average annual rate of 6%--more than twice the rate assumed in the CBO's baseline projections for those years. Rather than serving as a forecast, the baseline projections are intended to provide lawmakers with a neutral reference point for assessing policy options going forward.

SOURCES OF UNCERTAINTY

The uncertainties in the CBO's budget projections arise from two sources. First, as mentioned above, new legislation may alter paths of revenues and spending from those assumed by the CBO. Second, forecasting the performance of the U.S. economy and its impact on the federal budget is an extremely complex process--one that involves numerous macroeconomic and technical factors that are themselves very difficult to predict. Examples of such factors include the trend growth rate of U.S. labor productivity (which influences the average earnings of workers), the rate of inflation (which determines cost-of-living adjustments for various federal spending programs), and the level of capital gains realizations from projections are constructed using assumptions for these factors that appear reasonable given the available data. In some cases, the assumptions are based on extrapolations of recent trends.

The CBO updates its projections twice a year, incorporating the latest data and any changes to economic and demographic assumptions. In recent years, the projections have undergone a series of rather large revisions. During this time, stronger than expected real GDP growth, low unemployment, and a soaring stock market combined to produce a tremendous increase in taxable income. In addition, lower than expected inflation led to an overestimate of federal spending on programs with automatic cost-of-living adjustments (such as Social Security). As of result of these developments, previously anticipated deficits turned into large and growing surpluses (for additional details, see Walsh 1999 and Kliesen and Thornton 2001).

The CBO's analysis of its own track record (see U.S. Congressional Budget Office 2001a, Chapter 5) shows that errors in estimating federal tax revenues have generally exceeded errors in estimating federal spending. This is due to the greater sensitivity of tax revenues to changes in economic conditions. The short-term outlook for revenues is particularly uncertain when the economy may be close to a business cycle turning point. Historically, the CBO has tended to overestimate actual tax revenues during recessions (as the tax base contracts) and underestimate actual tax revenues during booms (as the tax base expands). Over the long term, revenue projections are less sensitive to business cycle factors because recessions and booms tend to average out. However, the long-term outlook is particularly uncertain if the economy may have undergone a permanent structural change that renders past data less relevant. Since 1995, for example, the U.S. economy has experienced a surge in capital investment linked to computers and information technology. The growth rate of labor productivity has picked up while inflation has declined.

In light of these developments, many economists and policymakers believe that technological advancements have created a "new economy" which can grow faster than before without leading to inflationary pressure. From 1974 through 1995, the trend growth rate of U.S. labor productivity was about 1.5% per year. Beginning in 1996, however, labor productivity accelerated to an average growth rate of about 2.9% per year. The CBO's baseline projection assumes that most of this acceleration is permanent and that the remainder is due to temporary business cycle factors. Over the next ten years, the CBO assumes that trend productivity growth will be about 2.7% per year.

The CBO's January 2001 baseline takes into account the recent pronounced slowdown of the U.S. economy. The CBO anticipates that real GDP will grow by only 2.4% during 2001--a full percentage point below the growth rate of 3.4% anticipated only six months earlier in July 2000. According to the CBO analysis, a recession of average severity would not significantly alter its ten-year baseline projection. This is because the baseline already allows for the possibility that an average recession will occur sometime during the next decade. The calculations also show that subtracting 0.1 percentage point from projected real GDP growth in every year from 2001 through 2011 would reduce the cumulative ten-year surplus by only 4%, or $245 billion.

ALTERNATIVE SCENARIOS

To provide a better idea of the uncertainty surrounding the baseline projection, the CBO has constructed some alternative budget scenarios based on different (but still reasonable) assumptions about the future course of the U.S. economy and the cost of federal health care programs.

The "optimistic" scenario assumes that: (1) trend productivity growth over the next decade is 3.2% rather than 2.7%, (2) the recent increase in personal tax liabilities as a share of personal taxable income (due largely to higher capital gains realizations and a swift rise in income among people in the highest tax brackets) continues for another five years, and (3) spending on Medicare and Medicaid grows more slowly than in the baseline scenario.

The "pessimistic" scenario assumes that: (1) trend productivity growth over the next decade reverts to 1.5%, i.e., the rate observed from 1974 through 1995, (2) the recent increase in personal tax liabilities as a share of personal taxable income dissipates over the next five years, and (3) spending on Medicare and Medicaid grows faster than in the baseline scenario.

All three budget scenarios are plotted in Figure 1, together with the 40-year historical record of deficits or surpluses as a percentage of GDP. The long-run trend shown in the figure is constructed using a statistical technique that fits a smooth line through the central tendency of the data. This procedure helps to isolate movements in the data that are attributable to permanent shifts in policy or permanent changes in the structure of the economy, as opposed to temporary business cycle factors. The trend component of the deficit-to-GDP ratio reversed course and started shrinking in 1986. Since then, the federal government's budget position has continued to improve, particularly during the late 1990s when a budget surplus was recorded for the first time since 1969.

The ten-year total budget surplus under the optimistic scenario would be $8.9 trillion versus $5.6 trillion under the baseline. The on-budget (or non-Social Security) portion of the surplus would reach $6.2 trillion. This is two times larger than the corresponding baseline figure of $3.1 trillion. According to the CBO's computations, budget surpluses of this magnitude would completely wipe out the federal government's net indebtedness and lead to an accumulation of government-owned assets by 2011 that is unprecedented in U.S. history.

Under the pessimistic scenario, the ten-year total budget surplus would be only $1.6 trillion--less than one-third of the baseline figure of $5.6 trillion. On-budget surpluses would vanish after 2003 and turn into a series of gradually rising deficits. In 2011, the projected on-budget deficit would be $143 billion or about 1% of projected GDP. This figure is relatively small in comparison to the average deficit-to-GDP ratio of 4% recorded during the 1980s, however. Despite the pessimistic assumptions, the government's off-budget programs would continue to generate rising surpluses that would more than offset the on-budget deficits. In the absence of new legislation, the total surpluses would be large enough to reduce the federal government's net indebtedness by more than 50% over the ten-year projection horizon.

The divergence between the optimistic and pessimistic budget trajectories in Figure 1 shows that the degree of uncertainty surrounding the baseline widens as the projection horizon lengthens. This is because small differences in assumed growth rates can lead to large swings in the size of the surplus when growth rates are compounded over many years. A more sophisticated assessment of budget uncertainty conducted recently by the CBO helps to reinforce this point (see U.S. Congressional Budget Office, 2001b, Table 5). For fiscal year 2001, the CBO estimates that there is a 90% probability that the actual budget surplus will be within $131 billion of the baseline projection. Five years into future, for fiscal year 2006, the 90% probability range surrounding the baseline expands to a whopping $600 billion.

INSERT GRAPH

CONCLUSION

Projecting the status of the federal government's budget position over the next decade is a difficult and challenging task. The process involves the application of economic theory, statistical analysis, and a large amount of judgment. Despite the considerable uncertainties involved, the CBO's ten-year projections are a crucial input to federal budget deliberations because they provide lawmakers with a set of quantitative boundaries for evaluating any new spending or revenue policies.

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